Medical Examiners, Coroners, and Bioterrorism

To the Editor: Federal, state, and local agencies are developing plans to detect and respond to bioterrorism. Medical examiners and coroners should be included in these plans. A multifaceted response team for bioterrorist events includes health-care providers and law enforcement, public health, and public safety officials. Since medical examiners and coroners generally work independently from other members of this team, special efforts may be necessary to ensure their inclusion in the planning process.

Medical examiners and coroners have state statutory authority to investigate violent, suspicious, sudden, or unexplained deaths (1), including those due to homicide, trauma, and inapparent or poorly explained causes, such as drugs, toxins, and infectious agents. The role of these medical professionals in bioterrorism response can be twofold: response to a known terrorist attack and surveillance for unusual deaths or clusters of deaths that may represent an undetected attack. Deaths from terrorism are homicides and therefore under the jurisdiction of medical examiners and coroners. These investigators are skilled in preserving medicolegal evidence that may be important for subsequent criminal proceedings and in handling situations that involve mass deaths, as shown by their participation in the investigations of the Oklahoma City bombing, aviation accidents, and heat-related deaths (2-4).

Medical examiners and coroners may also play an important role in the detection of bioterrorism since they may recognize unusual deaths before health-care providers become involved. Patients who die of infectious diseases or poisoning often die at home (5,6). Even patients who come to a health-care facility for treatment may die precipitously and unexpectedly, without a clear diagnosis, and may come under the jurisdiction of medical examiners and coroners. For example, in the 1993 outbreak of hantavirus pulmonary syndrome in the southwestern United States, medical examiners played an important role in recognizing the novel, rapidly fatal infectious syndrome (7). Autopsies are an effective way of obtaining an accurate diagnosis for deaths from infectious diseases and toxic exposures. In 1979, autopsy pathologists played a critical role in recognizing inhalational anthrax cases caused by an accidental discharge from a former Soviet bioweapons laboratory (8). In 1985, Illinois medical examiners identified the cause of death of persons who ingested acetaminophen that had been intentionally contaminated with cyanide (9).

To be fully integrated into the medical, law enforcement, and public health plans for detecting and responding to bioterrorism, medical examiners and coroners will need information about the biological and chemical agents likely to be used, access to laboratories capable of identifying these agents, adequate data management systems for mortality surveillance, and improved autopsy facilities and procedures to ensure that prosectors are protected from infectious and chemical agents. As a beginning, the Centers for Disease Control and Prevention recently funded a model medical examiner surveillance program for bioterrorism mortality in New Mexico. Further collaboration among federal, state, and local agencies and medicolegal death investigators will be required for the components of such a program to be effective on a national scale.

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References

1. Combs DL, Parrish RG, Ing R. Death investigation in the United States and Canada, 1995. Atlanta (GA): Centers for Disease Control and Prevention; 1995.
2. Jordan FB. The role of the medical examiner in mass casualty situations with special reference to the Alfred P. Murrah Building bombing. J Okla State Med Assoc 1999;92:159-63.
3. McCarty VO, Sohn AP, Ritzlin RS, Gauthier JH. Scene investigation, identification, and victim examination following the accident of Galaxy 203: disaster preplanning does work. J Forensic Sci 1987;32:983-7.
4. Centers for Disease Control and Prevention. Heat-related mortality—Chicago, July 1995. MMWR Morb Mortal Wkly Rep 1995;44:577-9.
5. Soslow AR, Woolf AD. Reliability of data sources for poisoning deaths in Massachusetts. Am J Emerg Med 1992;10:124-7.
6. Luke JL, Halpern M. Sudden unexpected death from natural causes in young adults. Arch Pathol 1968;85:10-77.

7. Nolte KB, Simpson GL, Parrish RG. Emerging infectious agents and the forensic pathologist: the New Mexico model. Arch Pathol Lab Med 1996;120:125-8.
8. Walker DH, Yampolska O, Grinberg LM. Death at Sverdlovsk: what have we learned? Am J Pathol 1994;144:1135-41.
9. Lifschultz BD, Donoghue ER. The Tylenol cyanide poisonings. American Academy of Forensic Sciences 1989;46(Abstract A12).